Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An optical element of an optical pickup device for at least one of reproducing and recording information on a first optical information recording medium having a protect substrate thickness t1 by using a light beam having a first wavelength λ1 emitted from a first light source, and for at least one of reproducing and recording information on a second optical information recording medium having a protect substrate thickness t2 ($t2 \geq t1$) by using a light beam having a second wavelength λ2 ($\lambda2 > \lambda1$) emitted from a second light source, comprising:

an optical surface comprising a central region arranged around the optical axis and formed in an approximately circular shape, and a peripheral region arranged at a periphery of the central region;

a diffractive structure having a plurality of diffracting ring-shaped zones arranged around an optical axis on at least one optical surface, the diffractive structure being provided in the central region; and

an optical path difference giving structure for giving a prescribed optical path difference to a prescribed light beam passing through the diffracting ring-shaped zones, the optical path difference giving structure being provided in the central region,

wherein the first wavelength λ1 satisfies:

$370 \text{ nm} \leq \lambda1 \leq 430 \text{ nm}$,

wherein the diffractive structure emits an L-th ($L \neq 0$) order diffracted light with a larger light amount than any other diffractive light, when the light beam having the first wavelength λ1

passes through the diffractive structure, which emits an M-th (M≠0) order diffracted light with a larger light amount than any other diffractive light, when the light beam having the second wavelength λ2 passes through the diffractive structure, and

wherein the optical path difference giving structure is superimposed on the diffractive structure so that at least one stepped shape of the optical path difference giving structure is disposed on the optical surfaces of each ~~inside the boundary of the optical surface of at least one~~ of the plurality of diffracting ring-shaped zones.

2. (Previously Presented) The optical element of claim 1, wherein as compared with the diffractive structure when the optical path difference giving structure is not provided on the optical surface of the diffractive structure, the optical path difference giving structure lowers an absolute value of an optical phase difference between the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2 by changing a phase of at least one of the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2, the L-th order diffracted light and the M-th order diffracted light being caused by the diffractive structure.

3. (Previously Presented) The optical element of claim 1, wherein as compared with the diffractive structure when the optical path difference giving structure is not provided on the optical surface of the diffractive structure, the optical path difference giving structure lowers an absolute value of an optical phase difference between the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2 by substantially giving no change of a phase of one of the L-th order

diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2 and by giving a phase difference to the other of the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light having the light beam having the second wavelength λ2, the L-th order diffracted light and the M-th order diffracted light being caused by the diffractive structure.

4. (Previously Presented) The optical element of claim 1, wherein as compared with the diffractive structure when the optical path difference giving structure is not provided on the optical surface of the diffractive structure, the optical path difference giving structure lowers an absolute value of an optical phase difference between the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2 by giving a phase difference to both the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2, the L-th order diffracted light and the M-th order diffracted light being caused by the diffractive structure.

5. (Previously Presented) The optical element of claim 1, wherein as compared with the diffractive structure when the optical path difference giving structure is not provided on the optical surface of the diffractive structure, the optical path difference giving structure lowers an absolute value of an optical phase difference between the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2 by giving an optical path difference approximately equal to an integral multiple having the first wavelength λ1 to the L-th order diffracted light of the light beam having the first wavelength λ1 to substantially give no change of a phase difference generated by the

diffractive structure and by giving an optical path difference not equal to an integral multiple having the second wavelength $\lambda 2$ to the M-th order diffracted light of the light beam having the second wavelength $\lambda 2$.

6. (Previously Presented) The optical element of claim 1, wherein the optical path difference giving structure sets the absolute value of the optical phase difference to a value lower than $0.6\ \pi$ radians.

7. (Previously Presented) The optical element of claim 1, wherein the diffractive structure is a serrate shape, and the optical path difference giving structure is a stepped shape.

8. (Previously Presented) The optical element of claim 1, wherein the diffractive structure is a stepped shape, and the optical path difference giving structure is a stepped shape.

9. (Currently Amended) The optical element of claim 1, wherein ~~the optical surface comprises a central region arranged around the optical axis and formed in an approximately circular shape, and a peripheral region arranged at a periphery of the central region, the diffractive structure and the optical path difference giving structure are provided in the central region, and the~~ a diffractive structure formed in a serrate shape is provided in the peripheral region.

10. (Currently Amended) The optical element of claim 1, wherein ~~the optical surface comprises a central region arranged around the optical axis and formed in an approximately~~

~~circular shape, and a peripheral region arranged at a periphery of the central region, the diffractive structure and the optical path difference giving structure are provided in the central region, and the~~ an optical path difference giving structure is provided in the peripheral region.

11. (Currently Amended) The optical element of claim 1, wherein ~~the optical surface comprises a central region arranged around the optical axis and formed in an approximately circular shape, and a peripheral region arranged at a periphery of the central region, the diffractive structure and the optical path difference giving structure are provided in the central region, and~~ a refractive structure for refracting a light beam is arranged in the peripheral region.

12. (Previously Presented) The optical element of claim 1, wherein L=M is satisfied.

13. (Previously Presented) The optical element of claim 1, wherein L=M=1 is satisfied.

14. (Previously Presented) The optical element of claim 7, wherein the number of the discontinuous surfaces which are formed in a stepped shape along a direction of the optical axis and composes the optical path difference giving structure, is 2 or 3.

15. (Currently Amended) The optical element of claim 1, wherein ~~the first wavelength λ1 satisfies:~~

~~370 nm ≤ λ1 ≤ 430 nm, and~~

the second wavelength λ2 satisfies:

620 nm ≤ λ2 ≤ 680 nm.

16. (Previously Presented) The optical element of claim 1, wherein the diffractive structure sets a sum of a diffraction efficiency of the L-th order diffracted light of the light beam having the first wavelength λ1 and a diffraction efficiency of the M-th order diffracted light of the light beam having the second wavelength λ2 to 170% or less, and the optical path difference giving structure heightens the sum of the diffraction efficiency of the L-th order diffracted light of the light beam having the first wavelength λ1 and the diffraction efficiency of the M-th order diffracted light of the light beam having the second wavelength λ2 by 10% or more.

17-20. (Canceled).

21. (Currently Amended) The optical element of claim [[20]] 1, wherein the optical path difference giving structure gives an optical path difference to the diffracted light so that a -N-th order diffracted light of the light beam having the ~~use reference~~ first wavelength λ1 has a maximum diffraction efficiency and so that a (-N+1)-th order diffracted light of the light beam having the ~~use reference~~ second wavelength λ2 or a (-N-1)-th order diffracted light of the light beam having the ~~use reference~~ second wavelength λ2 has a maximum diffraction efficiency.

22-26. (Canceled)

27. (Previously Presented) The optical element of claim 1, wherein the number of diffracting ring-shaped zones is from 3 to 20.

28. (Currently Amended) The optical element of claim [[20]] 1, wherein the optical path difference giving structure gives an optical path difference equal to an integral multiple of the ~~use reference~~ second wavelength λ2 to the light beam having the ~~use reference~~ second wavelength λ2.

29. (Previously Presented) The optical element of claim 21, wherein L=M is satisfied.

30. (Previously Presented) The optical element of claim 21, wherein L=N is satisfied.

31. (Previously Presented) The optical element of claim 21, wherein M=N is satisfied.

32. (Previously Presented) The optical element of claim 21, wherein L=M=N is satisfied.

33. (Currently Amended) The optical element of claim 21, wherein the light beam having the ~~use reference~~ first wavelength λ1 and the light beam having the ~~use reference~~ second wavelength λ2 are respectively incident on the optical surface as a diverging light beam, and the light beam having the ~~use reference~~ first wavelength λ1 and the light beam having the ~~use reference~~ second wavelength λ2 are converged on a prescribed optical information recording medium in a condition that at least one of a spherical aberration and a wave front aberration are corrected.

34. (Canceled).

35. (Canceled).

36. (Currently Amended) An optical pickup device for at least one of reproducing and recording information on a first optical information recording medium having a protect substrate thickness t1 by using a light beam having a first wavelength λ1 emitted from a first light source, and for at least one of reproducing and recording information on a second optical information recording medium having a protect substrate thickness t2 (t2≥t1) by using a light beam having a second wavelength λ2 (λ2>λ1) emitted from a second light source, the optical pickup device comprising:

a plurality of optical elements;

wherein at least one of the optical elements comprises:

an optical surface comprising a central region arranged around the optical axis and formed in an approximately circular shape, and a peripheral region arranged at a periphery of the central region;

a diffractive structure having a plurality of diffracting ring-shaped zones arranged around an optical axis on at least an optical surface, the diffractive structure being provided in the central region; and

an optical path difference giving structure for giving a prescribed optical path difference to a prescribed light beam passing through the diffracting ring-shaped zones, the optical path difference giving structure being provided in the central region,

wherein the first wavelength λ1 satisfies:

370 nm ≤ λ1 ≤ 430 nm,

wherein the diffractive structure emits an L-th (L≠0) order diffracted light with a larger light amount than any other diffractive light, when the light beam having the first

wavelength λ1 passes through the diffractive structure, which emits an M-th (M≠0) order diffracted light with a larger light amount than any other diffractive light, when the light beam having the second wavelength λ2 passes through the diffractive structure, and

wherein the optical path difference giving structure is superimposed on the diffractive structure so that at least one stepped shape of the optical path difference giving structure is disposed on the optical surfaces of each ~~inside the boundary of the optical surface of at least one~~ of the plurality of diffracting ring-shaped zones.

37. (Previously Presented) The optical pickup device of claim 36, wherein as compared with the diffractive structure when the optical path difference giving structure is not provided on the optical surface of the diffractive structure, the optical path difference giving structure lowers an absolute value of an optical phase difference between the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2 by changing a phase of at least one of the L-th order diffracted light of the light beam having the first wavelength λ1 and the M-th order diffracted light of the light beam having the second wavelength λ2, the L-th order diffracted light and the M-th order diffracted light being caused by the diffractive structure.

38. (Canceled).

39. (Canceled).

40. (Previously Presented) The optical pickup device of claim 37, wherein information is at least one of reproduced and recorded for a third optical information recording

medium having a protect substrate thickness t3 (t3>t2) by using a light beam having a third wavelength λ3 (λ3>λ2) emitted from a third light source.

41. (Canceled).

42. (Currently Amended) The optical pickup device of claim 41, wherein the optical path difference giving structure gives an optical path difference to the diffracted light so that a -N-th order diffracted light of the light beam having the ~~use reference~~ first wavelength λ1 has a maximum diffraction efficiency and so that a (-N+1)-th order diffracted light of the light beam having the ~~use reference~~ second wavelength λ2 or a (-N-1)-th order diffracted light of the light beam having the ~~use reference~~ second wavelength λ2 has a maximum diffraction efficiency.

43. (Canceled).

44. (Canceled).

45. (Previously Presented The optical pickup device of claim 42, wherein information is at least one of reproduced and recorded for a third optical information recording medium having a protect substrate thickness t3 (t3>t2) by using a light beam having a third wavelength λ3 (λ3>λ2) emitted from a third light source.

46. (Previously Presented) The optical element of claim 1, wherein the optical element is an objective optical element.

47. (Canceled).